Current Water Conditions in Massachusetts
January 15, 2009

dcr
Massachusetts

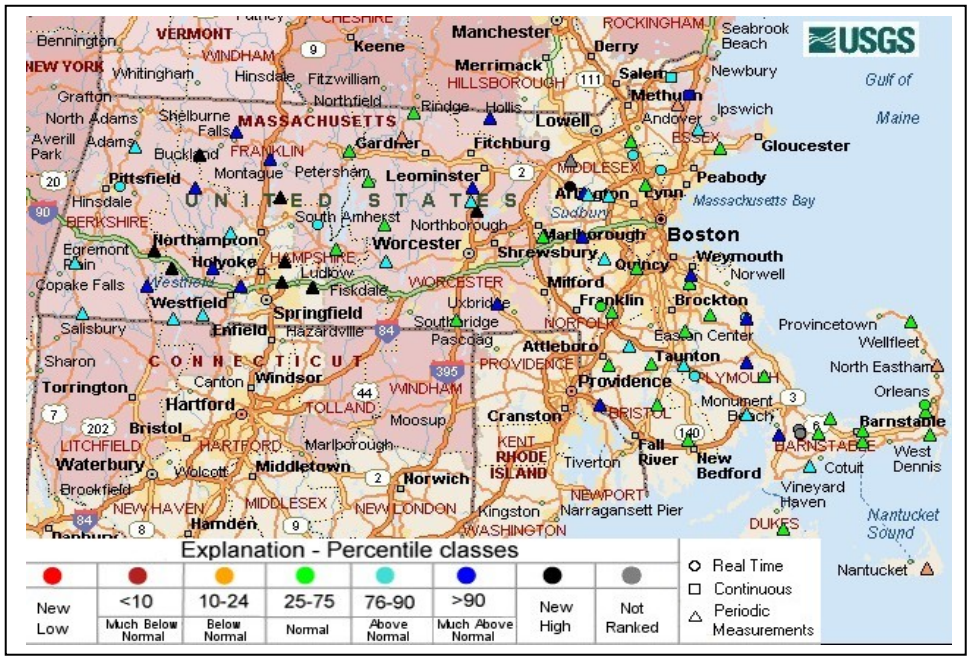
- December precipitation was above normal
- December streamflows were above normal
- December ground-water levels were generally above normal
- December reservoir levels were above normal

Precipitation Conditions

December state-wide precipitation equaled an estimated 7.45 inches, which is about 192 percent of the long-term average for December. The regions of Massachusetts received between 231 percent (Western) and 166 percent (Cape Cod and Islands) of average precipitation during December. The most notable meteorological event of December was the ice storm of the 11th and 12th that caused 0.5 inches or more of ice accretion which resulted in widespread tree damage and electrical power outages. The greatest damage was generally north and west of Route 495 where some areas were without power for 2 weeks and in some cases longer.
Calendar year 2008 precipitation was about 16 inches above the long-term average. Total yearly State wide precipitation was the second wettest in the last 113 years according to NOAA. A graph by NOAA's National Climatic Data Center showing the yearly precipitation from 1895 to 2008 is shown at the back of this report.
A table of December 2008 estimated precipitation statistics, based on precipitation data from the Department of Conservation and Recreation and National Weather Service precipitation monitoring networks is attached. A map at the back of this report shows the distribution of December total rainfall in Massachusetts and adjacent areas of New England.

Ground Water Levels

Ground-water levels reported by the United States Geological Survey (USGS) at the end of December 2008 generally ranged from above and much above normal (light and dark blue symbols on map) to normal (green symbols on map). A number of all-time-high monthly water levels were also recorded (black symbol on map). The USGS assessment of ground-water levels is based on 124 wells in Massachusetts and Rhode Island with 10 or more years of record. Ground water and surface water conditions in MA drought regions are shown in a table at the end of this report.

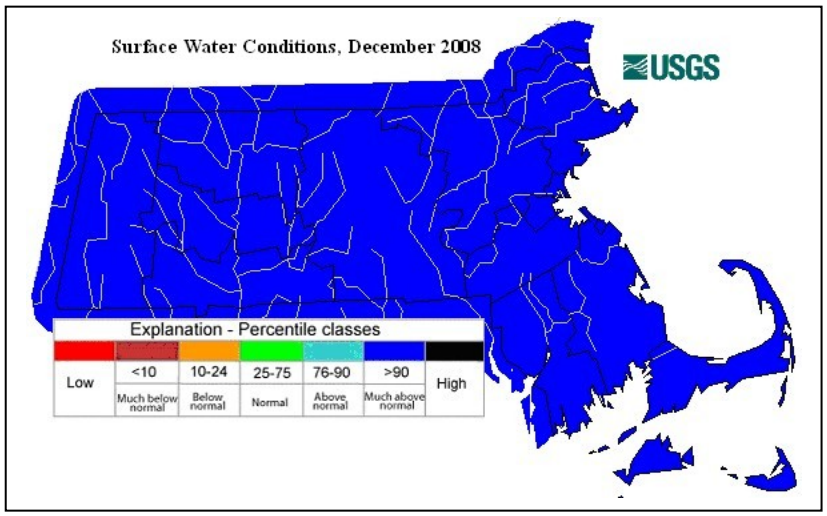


The USGS Ground Water Conditions Statement for the end of December 2008 can be viewed at the web site: http://ma.water.usgs.gov/water/water_g.htm

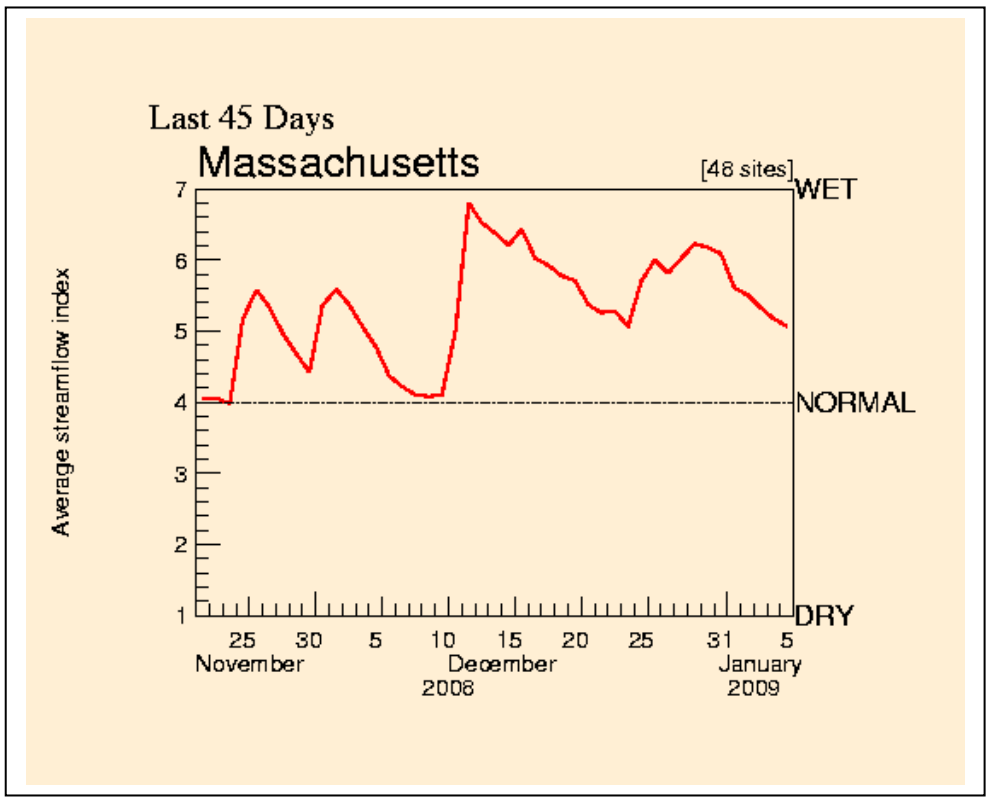
Stream Flow

During December 2008 stream flows that are monitored by the Commonwealth of Massachusetts and United States Geological Survey (USGS) cooperative stream gaging program were all much above normal (dark blue areas on map) in Massachusetts.

The graph below depicts a composite daily streamflow relative to normal streamflow for Massachusetts for the period of November 21, 2008 to January 4, 2009. In general State-wide streamflow was above normal during the entire month of December and remained above in early January. The graph is a composite of 48 real time gages across the state with a long period of record.



Additional information on streamflow is available from the USGS web page:
http://ma.water.usgs.gov/water/water_s.htm



KEY:

1 = New record low for day
2 = < 10th percentile
3 = 10th – 24th percentile
4 = 25th – 74th percentile
5 = 75th – 89th percentile
6 = ≥ 90th percentile
7 = New record high for day

Water Supply Reservoir Levels

Surface water reservoir percent full values for water supply sources provided by water suppliers are listed below. The reservoir percent full values listed are for the end of December and are reported to be generally above normal for this time of year. Lynn and Beverly fill their reservoirs from off-line rivers and have started to refill their reservoirs on December 1st.

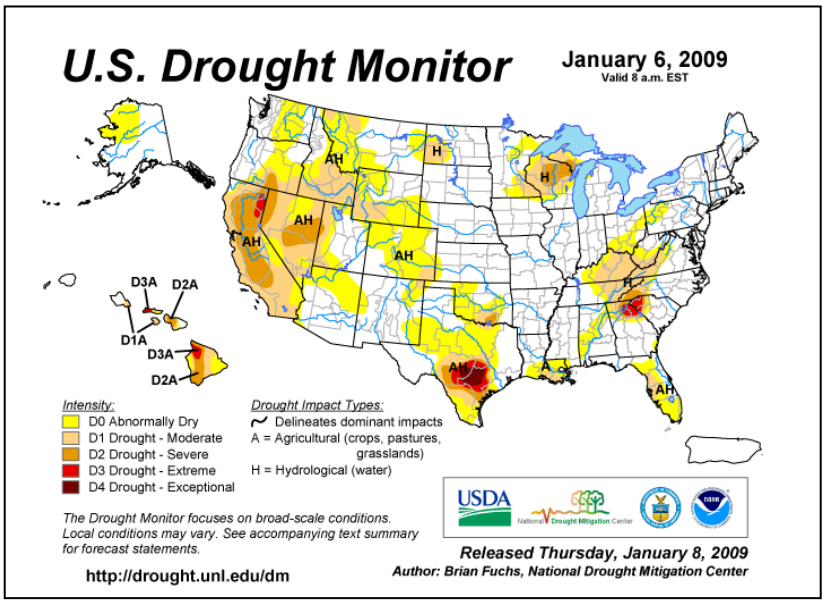
December 2008 /January 2009 Massachusetts Reservoir Status

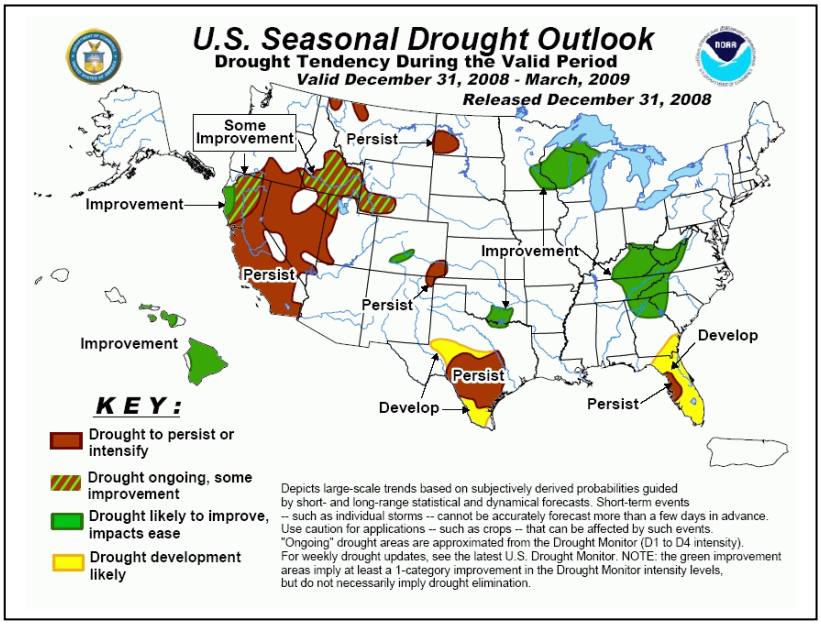
Reservoir/City or Town	Percent Full	Reservoir/City or Town	Percent Full
Quabbin	100	Beverly/Salem	96.3
Worcester	104.5	Lynn	73.2
Cobble Mt./ Springfield	98	Taunton/New Bedford/Assawompsett	98.3

Note: N.A. Indicates data not available for this report

Drought Indices/Forecasts

The National Drought Mitigation Center's (NDMC's) January 6, 2009 Drought Monitor Map shown at right indicates no drought conditions in Massachusetts or New England.





Standardized Precipitation Index:

The Western Regional Climate Center's (Desert Research Institute, University and Community College System of Nevada) 1, 3, 6, and 12-Month Standardized Precipitation Index through the end of December were not yet available but will probably show a range wet conditions across Massachusetts.

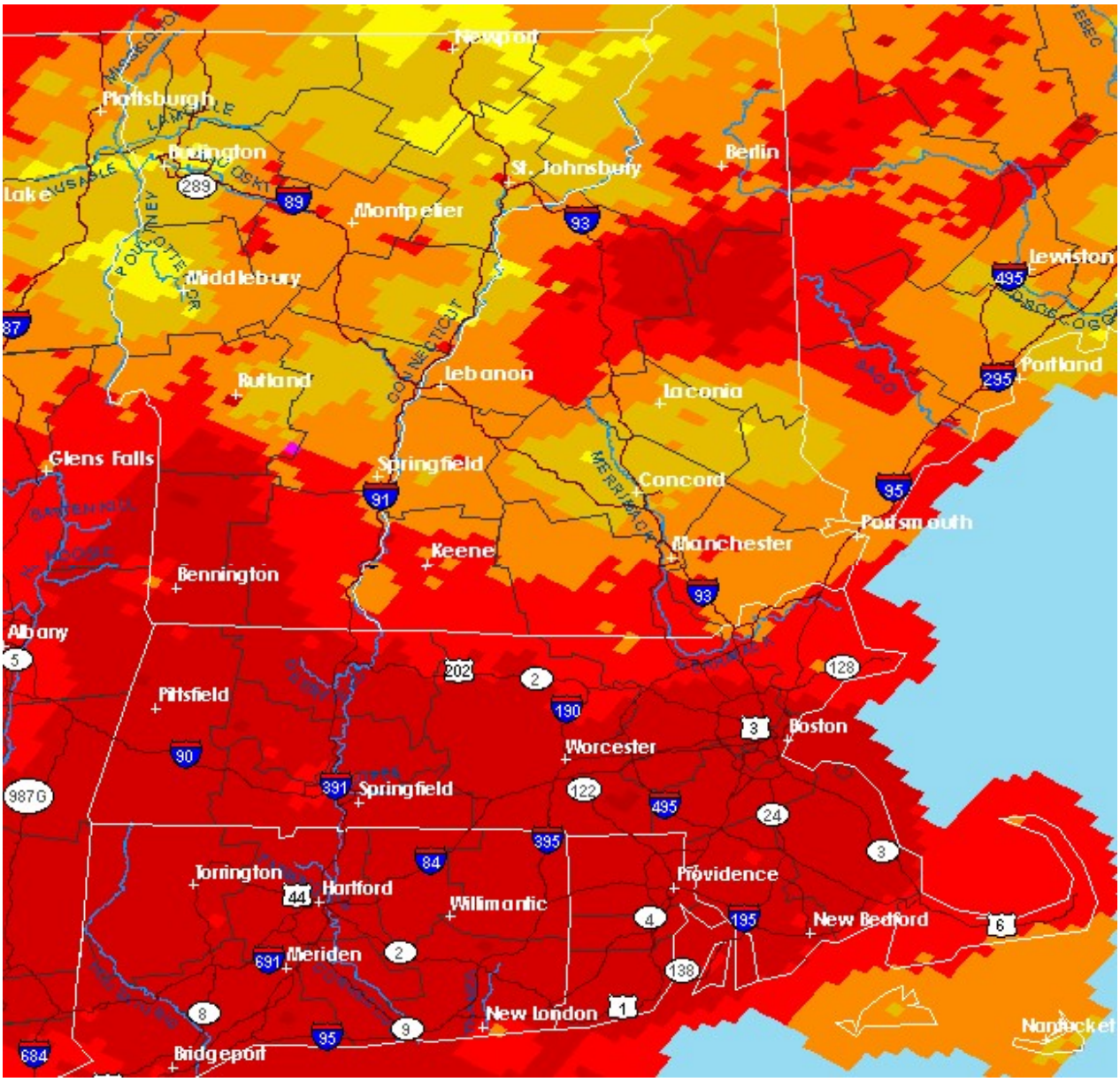
NWS/NOAA's Climate Prediction Center: The U.S. seasonal Drought Outlook dated December 31, 2008 predicts normal conditions for Massachusetts through March 2009.

Extended Forecasts

Following Wednesday's mixed precipitation event a plowable snowstorm tracking out of the mid west and then off the south coast is forecast for Saturday. Sunday is quiet with high pressure over NE. Monday and Tuesday another low pressure area is forecast to affect the State.

The National Weather Service Climate Prediction Center's extended 6-10 day forecast predicts below normal temperatures and normal rainfall. The 8-14 day forecast is for below normal temperatures and rainfall. The 1-month forecast is for normal temperature and rainfall.

The NWS Climate Prediction Information can be found at http://www.cpc.noaa.gov/index.php



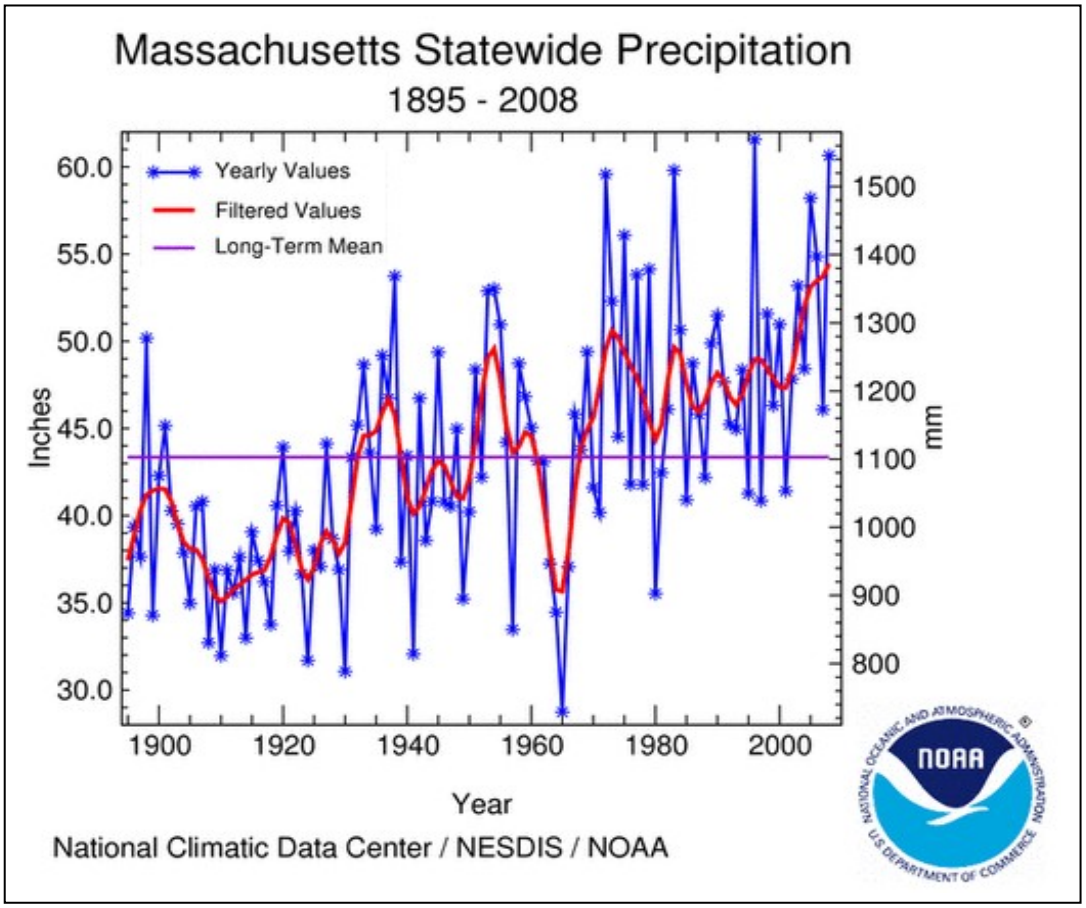
http://www.srh.noaa.gov/rfcshare/precip_analysis_new.php

TOTAL RAINFALL
DECEMBER 2008

GENERAL WATER CONDITIONS IN MASSACHUSETTS - DECEMBER 2008
EOEEA and MEMA DROUGHT MANAGEMENT PLAN REGIONS
(link to Massachusetts regions – source MADCR)

Massachusetts Regions	Surface-Water Conditions	Ground-Water Conditions
Cape and Islands	Above normal	normal
Southeast	Above normal	Above normal
Northeast	Above normal	Above normal
Central	Above normal	Above normal
Connecticut River	Above normal	Above normal
Western	Above normal	Above normal

Note: Surface- and ground-water conditions for individual streamflow-gaging stations and wells may differ from general conditions.



This report was prepared by the Massachusetts Department of Conservation and Recreation. Data were obtained from the sources described in the report and may be preliminary in nature. Additional information, previous and future water conditions reports can be found on our web site: http://www.mass.gov/dcr/waterSupply/rainfall/